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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/607,560

06/27/2003

Doo-Hwan Jo

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KED & ASSOCIATES, LLP
P.O. Box 221200
Chantilly, VA 20153-1200

EXAMINER

YUN, EUGENE

ART UNIT

PAPER NUMBER

2618

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/607,560

Applicant(s)

JO, DOO-HWAN

Examiner

Eugene Yun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 13-25, 28 and 35-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13-25, 28 and 35-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 16, 35, and 50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding Claims 1, 16, and 35, the specification does not specifically include any detail about sound that is leaked into an interior portion of the main body “to prevent the leaked sound from reaching an ear of a user”. There is no detail in the specification stating anything about sound being prevented from reaching an ear of a user until detail was provided in recently amended paragraph [24] of the specification. Therefore, the limitation stating leaked sound prevented from reaching the ear of a user is new matter.

Regarding Claim 50, the specification does not include the specific detail of the “component” stating “at least one hole having an inlet and an outlet, the inlet being provided between the outlet of the sound generator and the inlet on the first wall, and the outlet of the component configured to be provided within the interior”. The specification includes no such detail of any “inlet” or “outlet” of any holes.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10, 13-25, 28, and 35-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kjeldsen (EP 0364935) in view of Weckstrom et al. (US 6,621,910).

Referring to Claim 1, Kjeldsen teaches an electronic device, comprising:

a sound generator (see col. 2, lines 35-37) having a first plurality of holes 10 (fig. 4);
a housing having a second plurality of holes (see col. 2, lines 39-41 and 6 in fig. 4); and
a sound controller between the sound generator and housing (see col. 2, lines 38-41).

Kjeldsen does not teach the sound controller including a leakage member having a third plurality of holes for leaking sound traveling from the holes in the sound generator to the holes in the housing, the third plurality of holes leaking the sound into an interior portion of the housing to prevent the leaked sound from reaching the ear of a user. Weckstrom teaches the sound controller 102 (fig. 1) including a leakage member having a third plurality of holes 115 (fig. 1) for leaking sound traveling from the holes in the sound generator to the holes in the housing 50 (fig. 1), the third plurality of holes leaking the sound into an interior portion of the housing to prevent the leaked sound

from reaching the ear of a user (see leakage holes 115 where sound leaked does not travel through housing 103 and col. 4, lines 2-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Weckstrom to said device of Kjeldsen in order to achieve better leak tolerance in a smaller device.

Referring to Claim 16, Kjeldsen teaches a communications terminal comprising:

A housing (see col. 2, lines 39-41) having a first plurality of holes 10 (fig. 4);

A receiver within the housing (see col. 2, lines 35-37) to output sound through a second plurality of holes 6 (fig. 4); and

A sound controller between the receiver and housing (see col. 2, lines 38-41);

Kjeldsen does not teach the sound controller including a leakage member having a third plurality of holes for leaking sound traveling from the holes in the sound generator to the holes in the housing, the third plurality of holes leaking the sound into an interior portion of the housing to prevent the leaked sound from reaching the ear of a user. Weckstrom teaches the sound controller 102 (fig. 1) including a leakage member having a third plurality of holes 115 (fig. 1) for leaking sound traveling from the holes in the sound generator to the holes in the housing 50 (fig. 1), the third plurality of holes leaking the sound into an interior portion of the housing to prevent the leaked sound from reaching the ear of a user (see leakage holes 115 where sound leaked does not travel through housing 103 and col. 4, lines 2-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the

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teachings of Weckstrom to said device of Kjeldsen in order to achieve better leak tolerance in a smaller device.

Referring to Claim 35, Kjeldsen teaches a receiver unit of a terminal device comprising:

A main body including of an outer case 2 (fig. 1) forming an outer portion and an inner case 7 (fig. 1) coupled with the outer case and having a plurality of sound discharge holes (see col. 2, lines 38-41); and

A receiver disposed inside the main body and generating a sound (see col. 2, lines 35-37).

Kjeldsen does not teach a sound leakage unit disposed between the receiver and the sound discharge holes of the inner case and leaking a portion of the sound generated from the receiver before being discharged through the sound discharge holes, wherein said portion of the sound is leaked into an interior portion of the main body to prevent the leaked sound from reaching an ear of a user. Weckstrom teaches a sound leakage unit disposed between the receiver 102 (fig. 1) and the sound discharge holes of the inner case 105 (fig. 1) and leaking a portion of the sound generated from the receiver 116 (fig. 1) before being discharged through the sound discharge holes, wherein said portion of the sound is leaked into an interior portion of the main body to prevent the leaked sound from reaching an ear of a user (see leakage holes 115 where sound leaked does not travel through housing 103 and col. 4, lines 2-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to provide the teachings of Weckstrom to said device of Kjeldsen in order to achieve better leak tolerance in a smaller device.

Referring to Claims 2 and 17, Kjeldsen also teaches the sound controller controlling the discharge of sound through the holes in the housing based on a predetermined sound leakage pattern (see col. 4, lines 3-7).

Referring to Claims 3 and 18, Kjeldsen also teaches the predetermined sound leakage pattern increasing uniformity of output sound volume within a predetermined distance range from the device (see col. 4, lines 8-18).

Referring to Claims 4 and 19, Weckstrom also teaches a portion of the holes in the receiver 110 (fig. 1) are aligned with the holes in the housing 105 (fig. 1) and wherein other holes in the receiver 115 (fig. 1) are blocked by the receiver 103 (fig. 1).

Referring to Claims 5 and 20, Kjeldsen also teaches the holes in the leakage member arranged relative to the holes in the housing to leak sound in a circumferential direction (see fig. 3 and col. 3, lines 9-18).

Referring to Claims 6 and 21, Kjeldsen also teaches the holes in the leakage member arranged at regular intervals in a circumferential direction (see fig. 3 and col. 3, lines 9-18).

Referring to Claims 7 and 22, Kjeldsen also teaches the leakage member cylindrical in shape and wherein the holes in the leakage member are in a circumferential direction (see fig. 3 and col. 3, lines 9-18).

Referring to Claims 8 and 23, Kjeldsen also teaches the holes in the housing and the holes in the sound generator arranged in a same pattern (see col. 3, lines 19-30).

Referring to Claims 9 and 24, Kjeldsen also teaches said pattern as a circular pattern (see col. 3, lines 19-30).

Referring to Claims 10 and 25, Kjeldsen also teaches a spacing between the sound generator and housing corresponds to a thickness of the leakage member (see col. 4, lines 8-18).

Referring to Claims 13 and 28, Kjeldsen also teaches the holes in said wall are coincident with the holes in the housing (see col. 3, lines 19-30).

Referring to Claim 14, Kjeldsen also teaches the electronic device as a communications terminal (see col. 2, lines 35-37).

Referring to Claim 15, Kjeldsen also teaches the communications terminal as a mobile communications terminal (see col. 2, lines 35-37).

Referring to Claim 36, Kjeldsen also teaches a plurality of leakage holes formed between a front side of the receiver and an inner side of the inner case in order to leak a sound therethrough in a circumferential direction (see fig. 3 and col. 3, lines 9-18).

Referring to Claim 37, Kjeldsen also teaches the sound leakage member including leakage holes formed at regular intervals in a circumferential direction of the lower housing of the receiver, and a plurality of protrusions formed protruded with a certain width (see fig. 3 and col. 3, lines 9-18).

Referring to Claim 38, Kjeldsen also teaches the sound leakage member of the receiver unit has a certain width and is formed as a cylindrical type with a plurality of leakage holes in a circumferential direction, and both sides of which ate respectively

attached at a lower housing of the receiver and the inner case (see fig. 3 and col. 3, lines 9-18).

Referring to Claims 39, 40, 43, and 44, Weckstrom also teaches the holes in the leakage member arranged at least substantially perpendicular to the holes in the housing and/or sound generator (see leakage holes 115 in proportion to 105 in fig. 1).

Referring to Claims 41 and 45, Weckstrom also teaches the holes in the housing aligned with the holes in the sound generator (see 105 and 110 in fig. 1).

Referring to Claims 42 and 46, Weckstrom also teaches the holes in the leakage member arranged to reduce a change in volume of the sound passing through the second plurality of holes (see col. 2, lines 27-36).

Referring to Claim 47 Weckstrom also teaches the leakage member as a separate member between the sound generator and housing (see 102 of fig. 1, which is separate from 116 and 103).

Referring to Claim 48, Kjeldsen also teaches the leakage member including a ring containing the third plurality of holes (see fig. 3).

Referring to Claim 49, Weckstrom also teaches the leakage member formed integrally with and protrudes from the sound generator (see 115 of fig. 1 protruding in the outer direction).

Referring to Claim 50, Kjeldsen teaches an electronic device, comprising:

a housing having a first plurality of holes on a first wall of the housing, each hole having an inlet and an outlet (see col. 2, lines 39-41 and 6 in fig. 4 where sound can travel through the holes from the inside to the outside of the device);

a sound generator provided within an interior of the housing (see col. 2, lines 35-37) and the sound generator having a second plurality of holes, each hole having an inlet and an outlet, the outlet of the holes of the sound generator facing an inlet of the holes of the housing (see holes 10 in fig. 5 with open ends on both sides and also facing the holes in the housing 6 in fig. 4).

Kjeldsen does not teach a component configured to be provided between the first wall of the housing and the sound generator, the component configured to have at least one hole, said at least one hole having an inlet and an outlet, the inlet being provided between the outlet of the sound generator and the inlet on the first wall, and the outlet of the component configured to be provided within the interior. Weckstrom teaches a component 102 (fig. 1) configured to be provided between the first wall of the housing 103 (fig. 1) and the sound generator 117 (fig. 1), the component configured to have at least one hole 115 (fig. 1), said at least one hole having an inlet and an outlet, the inlet being provided between the outlet of the sound generator and the inlet on the first wall, and the outlet of the component configured to be provided within the interior, wherein said at least one hole leaks sound from the sound generator into the housing to prevent the leaked sound from reaching an ear of a user (see 115 of fig. 1 where the sound travels from inside the leakage member 102 through the holes 115 to outside the leakage member but still within the device). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Weckstrom to said device of Kjeldsen in order to achieve better leak tolerance in a smaller device.

Response to Arguments

5. Applicant's arguments filed 5/18/2007 have been fully considered but they are not persuasive.

Regarding the 112 first paragraph rejections of claims 1, 16, 35, and 50, although the drawings show that preventing the leaked sound from reaching an ear of a user is possible, there is no explicit support in the original disclosure that this intended use was known at the time of original filing. The same applies for the component having at least one hole having an inlet and an outlet, the inlet being provided between the outlet of the sound generator and the inlet on the first wall, and the outlet of the component configured to be provided within the interior. Although the drawings may show that the at least one hole has an inlet and an outlet, again, the examiner states that there is no explicit support in the original disclosure that this intended use was known at the time of original filing.

The applicant argues that the Weckstrom reference does not teach "the sound controller including a leakage member having a third plurality of holes for leaking sound traveling from the holes in the sound generator to the holes in the housing, the third plurality of holes leaking the sound into an interior portion of the housing to prevent the leaked sound from reaching the ear of a user". Even if the sound that travels through the holes 115 (fig. 1) were to recirculate, the recirculated sound is also a NEW sound, especially since the recirculated sound must again pass through the sound generator. Any sound that comes from the sound generator is considered by the examiner to be

new sound regardless of whether it comes from. This means that the old, previously leaked sound is indeed prevented from reaching the ear of a user.

In addition, figs. 5 and 7 of the claimed invention also has a hole on the right side which can recirculate the leaked sound. Therefore, these drawings contradict the applicant's arguments.

For the above reasons, the examiner stands by his rejection.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (571) 272-7860. The examiner can normally be reached on 9:00am-6:00pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571)272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Eugene Yun
Examiner
Art Unit 2618

EY


MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER